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Docket No. RTN-123AUS

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

1 1. (Original) A method for determining a vehicle trip on a roadway, the method comprising:  
 2 providing a plurality of vehicle detections from a plurality of gateways;  
 3 determining a maximum travel time between corresponding pairs of the plurality of  
 4 gateways;  
 5 correlating corresponding pairs of the plurality of vehicle detections by determining ~~the~~  
 6 travel time between each of the gateways of each of the corresponding pairs of detections is ~~less~~  
 7 than a corresponding maximum travel time;  
 8 determining a plurality of chainable detections; and  
 9 determining the boundaries of the trip.

1 2. (Currently Amended) The method of claim 1 wherein the providing the plurality of vehicle  
 2 detections comprises providing at least one license plate image corresponding to one of the  
 3 plurality of vehicle detections.

1 3. (Original) The method of claim 2 further comprising:  
 2 determining a vehicle license plate number; and  
 3 processing the at least one license plate image for verifying the vehicle license plate  
 4 number.

1 4. (Currently Amended) The method of claim 1 wherein the providing ~~the~~ a plurality of vehicle  
 2 detections comprises filtering a plurality of vehicle transactions for providing the plurality of  
 3 vehicle detections.

1 5. (Original) The method of claim 4 wherein the plurality of vehicle transactions includes at  
 2 least one ambiguous transaction; and

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3 further comprising eliminating at least one ambiguous transaction from the plurality of  
4 vehicle transactions.

1 6. (Original) The method of claim 5 wherein the at least one ambiguous transaction includes a  
2 conflicting gateway crossing.

1 7. (Original) The method of claim 4 further comprising eliminating dual transactions from the  
2 plurality of vehicle detections.

1 8. (Currently Amended) The method of claim 1 wherein the correlating the corresponding pair  
2 pairs of the plurality of vehicle detections further comprises determining whether each of the pair  
3 of detections is provided by a corresponding pair of gateways that are disposed logically  
4 consistent with the roadway topology.

1 9. (Currently Amended) The method of claim 1 wherein the correlating ~~the~~ corresponding pair  
2 pairs of the plurality of vehicle detections further comprises determining that the travel time  
3 between each of the detections is greater than a minimum travel time.

1 10. (Currently Amended) The method of claim 1 wherein the determining a maximum travel  
2 time comprises determining an incident free maximum travel time.

1 11. (Original) The method of claim 10 further comprising:  
2 determining an expected travel time; and  
3 determining that the maximum travel time is the longer of the expected travel time and  
4 the incident free maximum travel time.

1 12. (Original) The method of claim 11 further comprising:  
2 detecting a traffic incident; and  
3 modifying the expected travel time in response to the traffic incident.

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- 1 13. (Original) The method of claim 1 further comprising waiting for the plurality of chainable  
2 detections to be initially processed.
- 1 14. (Original) The method of claim 1 further comprising waiting for the plurality of chainable  
2 detections to be verified.
- 1 15. (Currently Amended) The method of claim 13 further comprising determining a latest time  
2 for the plurality of vehicle detections.
- 1 16. (Currently Amended) The method of claim 1 wherein the determining the boundaries  
2 comprises detecting the end of the trip.
- 1 17. (Original) The method of claim 16 wherein detecting the end of the trip comprises:  
2 determining a maximum detection time for the plurality of chainable detections;  
3 determining a current boundary time;  
4 comparing the current boundary time to the maximum detection time; and  
5 declaring the end of the trip in response to determining that the current boundary time is  
6 greater than the maximum detection time.
- 1 18. (Currently Amended) The method of claim 1 wherein the determining the boundaries  
2 comprises detecting the a start of the trip.
- 1 19. (Original) The method of claim 1 further comprising forming the trip by chaining the  
2 plurality of chainable detections.
- 1 20. (Currently Amended) The method of claim 1 further comprising waiting for the plurality of  
2 chainable detections to include all vehicle detections that might chain.
- 1 21. (Currently Amended) The method of claim 20 wherein the waiting for the plurality of  
2 chainable detections comprises: ~~all detections that might chain~~ comprises:

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3 determining a first time wherein each of the plurality of chainable detections has a ~~first~~  
4 extrapolation region terminating earlier than the first time.

1 22. (Currently Amended) The method of claim 21 further comprising:

2 determining a second time wherein each of the plurality of chainable detections ~~occurring~~  
3 later than the first time has a second extrapolation region terminating earlier than the second  
4 time, ~~is evaluated for verifying.~~

1 23. (Currently Amended) The method of claim 22 further including verifying transactions a  
2 vehicle detection from among the plurality of vehicle detections occurring between the first ~~time~~  
3 interval and the second interval time using a video image of a license plate number captured at  
4 the time of the vehicle detection.

1 24. (Currently Amended) The method of claim ~~22-23~~ wherein the verifying a vehicle detection  
2 ~~transactions~~ comprises automatically recognizing the license plate number from the video image.

1 25. (Currently Amended) The method of claim ~~22-23~~ wherein the verifying a vehicle detection  
2 ~~transactions~~ comprises manually reading the license plate number from the video image.

1 26. (Currently Amended) The method of claim 1 wherein the plurality of vehicle ~~transactions~~  
2 detections is provided by at least one of:

3 an enforcement gateway; and  
4 a toll gateway sensor.

1 27. (Original) The method of claim 1 wherein each of the plurality of vehicle detections  
2 comprises:

3 a time of the detection; and  
4 the location of the detection.

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1 28. (Currently Amended) The method of claim 1 wherein the determining the boundaries of the  
 2 trip comprises using at least one of:  
 3 a traffic incident; and  
 4 a set of billing policies.

1 29. (Original) A method for determining a vehicle trip on a roadway having a plurality of  
 2 gateways disposed according to a roadway topology, the method comprising:  
 3 providing a model of the topology including gateway connectivity, a plurality of  
 4 minimum travel times between pairs of gateways, and a plurality of incident free maximum  
 5 travel times between pairs of gateways;  
 6 providing a plurality of vehicle detections;  
 7 providing a set of rules for applying the model;  
 8 correlating the plurality of vehicle detections by applying the rules to the plurality of  
 9 vehicle detections; and  
 10 determining a plurality of chainable vehicle detections forming the trip.

1 30. (Original) The method of claim 29 further comprising determining a plurality of expected  
 2 travel times between the pairs of gateways.

1 31. (Original) The method of claim 30 further comprising chaining the plurality of chainable  
 2 vehicle detections for forming a potential trip.

1 32. (Original) The method of claim 31 further comprising verifying a license plate reading  
 2 corresponding to at least one of the plurality of chainable vehicle detections.

1 33. (Original) The method of claim 32 further comprising waiting for required verification of at  
 2 least one of the plurality of chainable vehicle detections in the potential trip; and  
 3 chaining the plurality of chainable vehicle detections to form the trip.

1 34. (Original) A toll collection system comprising:

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1 a plurality of gateways;  
2 a trip determination processor comprising:  
3 a transaction processor;  
4 a vehicle detection correlation processor coupled to the transaction processor and  
5 adapted to determine at least one of whether a travel time between pairs of gateways is less than  
6 a corresponding maximum travel time and whether a travel time between pairs of gateways is  
7 greater than a corresponding minimum travel time;  
8 a transaction filter processor coupled to the vehicle detection correlation  
9 processor;  
10 an end of a trip detection processor coupled to the transaction filter processor,  
11 a start of a trip detection processor coupled to the transaction filter processor, and  
12 a trip formation processor coupled to the transaction filter processor, the end of a  
13 trip detection processor, and the start of a trip detection processor.

1 35. (Currently Amended) The system of claim 34 wherein the plurality of ~~gateway-gateways~~ is  
2 adapted for an open ticket tolling system.

1 36. (Currently Amended) The system of claim 34 wherein the plurality of ~~gateway-gateways~~ is  
2 adapted for a closed ticket tolling system.

1 37. (Currently Amended) The system of claim 34 wherein the plurality of ~~gateway-gateways~~ is  
2 adapted for an open ticket enforcement system.

1 38. (Currently Amended) The system of claim 34 wherein the plurality of ~~gateway-gateways~~ is  
2 adapted for a mixed open ticket, closed ticket tolling system.